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ABSTRACT

A workbook for financial self-assessment of small, private colleges is presented, along with information on the field testing stage. Eight small private colleges helped develop the workbook, which is intended to assist trustees, presidents, and business officers evaluate financial strengths and weaknesses of the school. Included is a checklist of necessary evaluations and a guide for interpreting the evaluations. The theory and framework of the evaluation process are described, and attention is focused on the first step of the evaluation: examination of easily calculated statistics. The statistical calculations are explained step-by-step, and definitions are provided to facilitate data gathering. The format also covers the value of the statistics and provides space for the eventual presentation of data on peer group institutions for comparison purposes. The statistics provide information on financial strength, estimated risk, changes affecting financial resources, and changes in nonfinancial resources. Financial strength for the long-term involves calculations on endowment market value and operating expenses, while the intermediate-term calculations involve available fund balances and operating expenses, and short-term calculations concern current fund assets and liabilities. (SW)

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Technical Report No. 8

Financial Self-Assessment–Small Colleges

Nathan Dickmeyer
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Prepared by

SAGE
STATISTICAL ANALYSIS GROUP IN EDUCATION

For the

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TECHNICAL REPORT 8

DEVELOPMENT OF A WORKBOOK FOR THE SELF-ASSESSMENT OF FINANCIAL CONDITION OF SMALL INDEPENDENT COLLEGES

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FIELD TEST REPORT

Purpose

These field tests were designed to assess the adequacy of a workbook to be filled out by the chief financial officer of a college using easily available data sources. The workbook could then be reviewed by trustees and other officers as a guide to better understanding the institution's financial strengths and weaknesses. The workbook was intended to strengthen institutional policy making by presenting an articulated picture of the institution's most pressing needs.

Methodology

Using as a resource a task force of experienced small college administrators and consultants, ACE and NACUBO staff members selected financial statistics that could be used as proxies for evaluating financial strength. Twelve schools were then selected for cursory examination by the task force. These twelve schools:

1. Agreed to release institutional data collected by JMA Associates.
2. Were either struggling or riding a crest of success in the opinion of the task force.
3. Were not in such severe difficulty that our site visit would conflict with other external efforts.
4. Were not so well off because of a large endowment that poor managerial practices would survive unnoticed.

Eight preliminary statistics were calculated for the four fiscal years ending 1974-1977. The committee reaction to the statistics was very productive. They noted:

1. Some statistics were uninterpretable because they were drawn from a set of complex factors.
2. Some statistics were uninterpretable because no clear trends were visible; i.e., schools which were in poor condition could have strong trends in either direction.
3. Some statistics lead to an "Ah ha!" phenomenon: "Ah ha! That's what I thought was happening at School X."

A preliminary workbook was then designed using new suggestions from the task force, the statistics which seemed useful in the preliminary test, and statistics made by breaking previously ambiguous statistics into simpler measures.

The task force then selected eight of twelve schools for site visits. Although four schools were selected as representative weak schools and four schools were selected as strong schools, there were three schools on which some disagreement was expressed among task force members. By splitting site visits among preconceived strong and weak schools, it was hoped that some validation of the workbook could be achieved.

The validation criteria were:

1. All weak schools should have at least one measure which showed more weakness than all strong schools.
2. Weak schools should have more measures which ranked them in the "bottom half" than the strong schools.

Other important site visit criteria were:

1. Conclusions drawn by the site visit staff from the data should not be contrary to the impressions of the school's financial condition held by the school's experienced administrators.
2. Statistics should not depend on data inaccessible from the institution's point of view.
3. Statistics should lead to questions such as "I wonder what's causing that?", "I wonder how other schools are doing?", or "What are other schools doing in this area?". Statistics and their presented definitions should not lead to a "So what?" reaction.

Site visits were structured such that Nathan Dickmeyer and one member of the task force (in five of the eight visits) had dinner with one or two college officers to get an informal picture of the school. The following morning the two site visitors interviewed the chief fiscal officer (and occasionally several other financial staff officers). The site visitors brought with them workbooks which were nearly completely filled out using JMA data and data from annual reports. Because the workbooks were nearly complete, the morning could be spent obtaining the financial officer's reaction to and explanation of the statistics.

In the afternoon the site visitors met with the president (five cases) or the dean (two cases). The officer was led through the workbook to see if its statistics agreed with his or her impressions and to see if the workbook seemed useful for articulating the college's financial condition.

After several site visits had been completed, the task force was reconvened and the statistics were re-evaluated in the light of the test school's reactions.

Substantial revision in the logic of presentation was undertaken. The new logic was used in the final site visits, and it did seem to make the overall presentation more efficient.

Results

The workbook stood up well in the site visit tests. However, it did not clearly differentiate preconceived strong and weak schools. Much of this problem can be attributed to the inaccuracy of the preconceptions as will be discussed below. There are three strong benefits of the workbook which were evident:

1. The workbook presented a comprehensive picture of the institutions' financial condition. Institutions with a myriad of problems often find it very difficult to comprehend all financial dimensions simultaneously. As a result, their reactions to problems often lack comprehensiveness. The workbook gave a balanced picture of many dimensions of each school's finances.
2. The workbook helped schools better articulate particular problems. The statistics often showed clear trends, and the statistics' definitions gave labels to the trends and explained why the trend may be harmful. This made it easier to communicate the need for programs necessary to remedy the situation to the board of trustees, for example.
3. New officers found that the statistics gave an efficient explanation of "where the institution had been" over the last few years. It was easy for them to see where previous policies had helped or harmed.

Expert Impressions

The site visits and the workbook led to several conclusions about the adequacy of expert evaluations. First, it is clear that the experts tended to emphasize differing criteria. As a result, task force members could be on opposite sides of the question of whether a particular school was financially weak or financially strong. One task force member might favor the size of the endowment as a criterion, a second might look at enrollment trends, while a third might base his or her conclusions on the adequacy of budgeting procedures.

Also, the evaluations of experts tended to be dated. One school had completely turned around since 1973, yet the experts still believed that the school was in trouble. A second school had greatly increased the short-term riskiness of its financial position over the last three years, yet the task force was unaware of the change. When the task force became aware of the workbook data, they did alter their overall impressions of the schools' conditions.

Good Ratios

The site visits revealed several statistics which had strong explanatory power. The current fund ratio was very useful in focusing the attention of administrators on short-term risk exposure. The expendable fund balance ratios were also easily translated into intermediate-term reserve levels.

The trends in income from students, private gifts, and government sources, once inflation was removed, provided good explanations of each institution's changes in financial resources.

Ratios in Need of Further Development

Cost per student was intended as a measure of the institution's ability

to adjust to inflationary pressures. Unfortunately, enrollment fluctuations, unusual expenditures, and quality changes are all combined in this measure making interpretation difficult. We need more experience with this measure in order to properly interpret it.

All the measures of nonfinancial resources were not well tested. The available data varied from institution to institution. Purely financial data are much more standardized.

The statistics describing financial risk all seemed to be measuring the appropriate phenomena, and were easily interpreted by the institutions. For the test institutions, however, few revelations occurred because of these data. These institutions seemed to match financial risk to financial strength. Thus, the strong institutions took greater risks than the weak ones. The data seemed only to convey this management truism to the administrators.

Bad Statistics

Several statistics were dropped during the site visits. The relationship of expense growth to income growth encompassed too many subfactors to be meaningful. It also neglected starting points. An institution with a surplus four years previous could show slower income growth than expense growth and could still currently have a surplus, because income started at a higher base.

The number of academic programs was dropped because of its ambiguity. The count of student accounts over 180 days old was dropped because of the difficulty in obtaining the data for most schools. While this is an important indicator, it seemed more appropriate for the second tier.

New Formats

The field test also led to an improved format. After explaining the workbook eight times, we fell into a comfortable organization of the

presentation which is reflected in the current draft of the workbook. As we gained practice in explaining the statistics, and as the schools' administrators reacted to the statistics, we developed a more lucid set of definitions and explanations.

A set of caveats also evolved as we found that many of our statistics had several explanations in different situations. The site visits gave us a chance to find firsthand where several financial accounts with different names had similar meanings.

Strengths and Weaknesses Revealed by the Workbook for the Eight Institutions

School one was a women's college which had recently expanded into community instruction. As a result most income trends were favorable and were matched with improved expenditure efficiencies. Nonfinancial resources were also being well maintained. One glaring weakness was a plummeting current fund ratio. Heavy short-term borrowing had been undertaken to finance the growth, while the board of trustees had been putting many gifts into quasi-endowment during this time. The administrators we talked to agreed that the workbook highlighted this problem, explained the risks involved in a shrinking current fund ratio, and would be very helpful in articulating the problem to the board of trustees in order to achieve a new set of cash flow management policies.

The second school was a northen liberal arts school with an environmental orientation. This school showed weakness in many resource measures, especially the nonfinancial ones. However, downtrends in income flows had recently stabilized. For this institution the workbook was most useful for giving a comprehensive view of problems. The site visit seemed to be the first time that the president had stopped to think about the interdependencies of all his problems.

The third school was a southern black liberal arts institution. The workbook revealed a steady climb in resources since 1973. The school's most serious problem was the level of risk involved in its extreme dependence on restricted, federal income. Administrators acknowledged this risk and were building resources to counter it. However, the mission of the institution seemed to tie it inextricably to this risk. The most revealing aspect of the visit was the discrepancy between task force member evaluations and the workbook's findings.

The fourth school was a southern liberal arts institution with a regional reputation for quality. This school also came across in the workbook as being better off than the task force believed. However, the data for nonfinancial resources were not completely evaluated. A shortcoming of the workbook is the lack of evaluation of lost opportunities. To a certain extent this school had missed several opportunities to be of greater service to the area. In the opinion of the site visitors and the current administration, these opportunities could have been very rewarding without compromising the historic mission of the college. No systematic way of discovering lost opportunities has been found which could be incorporated into the workbook.

The fifth school was a northern liberal arts institution with a good national reputation. It was clearly a strong institution even with its relatively small endowment. The workbook presented a convincing picture of the strengths of the institution. Most impressive was the discipline of the budgeting procedure as revealed in the second tier of analysis. This visit did much to confirm the importance of measuring financial resources,-because of the emphasis which this successful school placed on them.

The sixth school was similar to the fifth school in many ways. It was a strong northern liberal arts institution and it had a small endowment. The

principal difference between the two schools was the nearly complete stability of the sixth school: no growth and no decline. School six acknowledges that the stability may reflect a future weakness in that its failure to grow during a growth period may translate into an inability to maintain enrollments during a period of decline.

The seventh school was a traditionally black southern school with a strong religious orientation. The institution exhibited weakness in most areas although net revenue from students had stabilized. The buildings could have been better maintained and faculty turnover was high. New financial management had put the books in order and instituted planned budgets. Steps had been taken to decrease financial risk. Indications from the workbook were that a long downslide had been stabilized.

The eighth school was a northern single-sex institution with some movement away from liberal arts into more career-oriented fields. This institution was in excellent financial health and had a greater depth of financial management than most institutions its size. One resource measure not covered in the workbook is administrative staff. The staff seemed highly skilled at this college, but turnover was high.

General Findings

No single measure captures the "financial health" of the institution. A patient with normal body temperature can still have a broken arm. Financial health could be defined to be one of the measures or some combination of several, but we have not found predictable combinations, nor is it the intention of this research effort to do so.

Particular combinations are important, however. Higher risk as a factor is much more dangerous when resource levels are low rather than high. Specifically, we have noted these pathologies:

1. Short-term Danger: Low current fund ratio but good intermediate-term resource levels--several unfortunate contingencies could lead to embarrassment and the disadvantageous sale of assets.
2. Intermediate-term Danger: Good liquidity to meet immediate commitments, but few resources to buffer two- to three-year enrollment declines.
3. Risk and Resources: Many fixed commitments and short-term contracts, but a high level of financial stocks to buffer revenue fluctuations.
4. Risk and No Resources: Many fixed commitments and short-term contracts, and no financial resources to buffer changes.
5. Controlled Decline: A decrease in many revenue areas matched by expenditure decreases such that financial and nonfinancial resources maintain their same size in comparison to the budget.
6. Damaging Decline: Lower revenues and lower resources.
7. Controlled Growth: Increases in revenues and proportionate resources.
8. Damaging Growth: Revenue increases, but declines in either or both the proportionate shares (compared to the budget) of financial and nonfinancial resources.

There are several other theoretically possible combinations which were not witnessed at the test sites. These conditions would include changes in risk exposure levels over time and changes in the relative size of long-term resources.

The statistics showing the trends in real gift income and endowment income most often reflected a potential shortcoming of viewing four or five years of a statistic: heavy fluctuations are almost uninterpretable. Ways of smoothing the fluctuations need to be found.

We also found that the reliance on audit reports can lead to late detection of problems. One institution suffered from extremely optimistic revenue forecasts. This debilitating problem would not have been detected by the workbook until at least a year and a half after its inception.

A final limitation is that the workbook should not replace any of the current analyses being done on most campuses. Many of these analyses have been designed with the specific problems and goals of the institution in mind.

APPENDIX A

SELF-ASSESSMENT OF FINANCIAL CONDITION

A preliminary edition of a workbook for
small independent institutions

Nathan Dickmeyer
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National Association of College
and University Business Officers

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PREFACE

This document is the preliminary edition of a workbook developed by the National Association of College and University Business Officers Financial Management Center and the American Council on Education Economics and Finance Unit under a subcontract with the American Institutes for Research in the Behavioral Sciences, which has the prime contract with the National Center for Education Statistics.

The purpose of the workbook is to provide a relatively simple method for self-assessment of the financial condition of small independent colleges. The framework used for the workbook is based on the collective wisdom and experience of a group of business officers from small colleges. These persons have served on accreditation committees and acted as private consultants in addition to seeing to the financial viability of their own institutions. They formed the task force for the project and directed the development effort. The members of the task force are:

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The workbook was developed with the assistance of eight small independent colleges. The cooperation of the officers of those colleges contributed significantly to the content of the workbook. As a condition of the full participation of the institutions, their identities are being held in confidence.

The next stage in the development of the self-assessment workbook is to field test the analytic methodology. Also, significant development work is needed to complete the second and third tier analysis described in Chapter 1.

INTRODUCTION

This document is a preliminary self-assessment workbook intended to assist trustees, presidents and business officers in small independent colleges in evaluating their institution's financial condition. This version of the workbook is preliminary because it covers only one of three tiers of analysis and requires further testing.

The organization of the self-assessment workbook and the concepts for evaluating the financial condition of small independent colleges were developed under the leadership of a task force of business officers and consultants. The workbook design was also shared with eight small colleges where their trustees, presidents, business officers and other officials used and evaluated the workbook and helped mold it into its current form.

The evaluation of a college's financial condition involves a number of specific tasks, which are described in the remainder of this document. Some of these require subjective evaluations; others are data-oriented, relying on information obtained from the institution's records.

This preliminary workbook provides a check list of necessary evaluations and a guide for interpreting the evaluations. The approach is analytic and diagnostic in that the workbook does not lead to a single overall "financial health" indicator, but rather promotes an assessment of the institution's financial strengths and weaknesses in many areas.

The strength of the workbook lies not in the number of indicators presented, but in the supporting theory and the logic of their interconnection and meaning. Thus, the theory and framework of the evaluation process needs to be understood before actual evaluation begins. The theory and framework, which are described in greater detail in Chapter 1, are composed of three separate analytic steps or tiers. The first involves examination of a limited number of easily calculated statistics. If the statistics suggest a sound financial condition, there is no need to continue the analysis. However, if the statistics reflect the possibility of financial difficulty, the second tier provides a systematic method for expanding the analysis to the causes of financial concern. The second level begins a diagnostic process that suggests the specific causes of financial concern. The third tier describes possible management improvement techniques that may prove helpful in correcting the deficiencies identified in the prior analysis.

Chapter 2 of this workbook contains the worksheets used for calculating the statistics of the first tier. Each statistic's purpose and significance are explained, with a step-by-step method for the calculation. A set of definitions is also provided to facilitate data gathering. Once the statistic has been calculated, the workbook format provides the opportunity to explain the significance of the value of the statistic. Space is also set aside for the eventual presentation of peer group information.

The description of the second and third tiers has not been completed; it will be developed in subsequent research efforts, to be presented in a separate document.

Limitations

Before beginning the self-assessment of a college's financial condition, a number of qualifications needs to be explained. No technique provides perfect measurements; in some cases the statistics described in this workbook design may prove inadequate for a particular college.

Some specific limitations include:

1. The statistics should not be taken at face value. For each statistic, one should try to understand why it has the value it has; the assumptions should be written. If this is done for each statistic, a pattern may develop; or conversely, some assumptions may be seen as inconsistent and may need to be rethought.

2. Comparison of an institution's statistics with those of peer institutions should not be assumed to automatically indicate a good, bad, or average condition. For example, if 90% of current fund revenues are from tuition, and an institution's group averages only 65%, that institution is not automatically in a financially weak position. This statistical comparison does indicate, however, that the institution's dependence on tuition should be explored further to better understand the differences.

3. This self-assessment methodology is not an appropriate means for the allocation of funds by external agencies such as governmental bodies or private foundations. The sole intent of the workbook approach is to provide an analytic tool that institutional officers can use for evaluating their college's financial condition.

4. The workbook is limited in that it looks only at the college's financial condition. The statistics identified here should be incorporated into an overall evaluation of the institution's mission, academic program offerings, recruitment efforts, financial aid offerings, student counseling, etc.

5. At this stage of the workbook's development, only a limited number of colleges have used the material. The design is experimental; subsequent editions will be more complete, with peer group information provided for further analysis of the significance of the statistics.

6. Statistics are the shadows on the wall of the cave; they can only provide reflections of the complex reality of what is happening in the college. Reality must include the experience and wisdom of the college's trustees and officers who interpret and use the statistics for the betterment of the college.

7. Finally, the statistics developed with this workbook are simple by design. While simplicity is a virtue, the statistics can be only rough approximations. The uniqueness of the college will not be readily seen in the statistics. Again, interpretation by the college's trustees and officers is the only way this workbook approach can be helpful.

CHAPTER 1

The Framework for Self-Assessment

To some extent, it is not difficult to analyze the financial strength of a small independent college; astute business officers have been doing so for generations. In general, they look at how much cash is in the bank now compared with last month, or last year; trends in applications and enrollments; the competitiveness of faculty salaries; the condition of the college plant; and the use of available fund balances.

The design of this workbook is based on the observations of a number of such business officers who have served on accreditation teams and engaged in private consulting, while keeping their own colleges vital and financially strong. This self-assessment workbook is an attempt to put the collective wisdom of these business officers into a framework that can be employed and used by presidents, business officers and trustees of other colleges. The workbook is intended to aid college presidents and business officers in the study of their institution's financial condition.

The workbook has been designed to include three tiers. The first tier is the calculation and examination of a limited number of key statistics. The statistics provide information in the following broad areas, as illustrated in the accompanying chart:

- Financial Strength
- Estimated Risk
- Changes Affecting Financial Resources
- Changes in Nonfinancial Resources

At the first-tier level, the statistics give a rough approximation of the college's financial position. The workbook is designed to encourage the president or business officer to develop the rationale or set of assumptions supporting each of the calculated statistics. In this manner an initial scenario of the college's complete financial condition is sketched out. The statistics are designed such that inconsistent or unsupported assumptions are identified. For statistics that signal potential financial weaknesses or that are without reasonable supporting explanations, a second and third tier should be processed. (Tiers two and three will be developed in subsequent research efforts.)

Philosophy of Financial Strength

The statistics presented in this workbook have been selected for several reasons. First, they are usually readily available from the institution's own records. (If they are not, a case exists for weakness in the

Financial Analysis
A Structure for Indicators
In Small Independent Colleges

Financial Strength

- Long-term:

$$\frac{\text{Endowment Market Value}}{\text{Operating Expenses}}$$

- Intermediate-term:

$$\frac{\text{Available Fund Balances}}{\text{Operating Expenses}}$$

- Short-term:

$$\frac{\text{Current Fund Assets}}{\text{Current Fund Liabilities}}$$

Changes Affecting Financial Resources

- Net revenues from students
- Revenues from government agencies
- Current fund private gifts used
- Current fund endowment income used
- Operating expenses per FTE student

Estimated Risk

- Long-term:
  - a. Fixed commitments
  - b. $\frac{\text{Long-term Debt}}{\text{Current Fund Revenues}}$
- Intermediate-term:
  - Dependence on restricted income
- Short-term:
  - a. Enrollment fluctuation
  - b. $\frac{\text{Current Fund Liabilities}}{\text{Current Fund Revenues}}$

Changes in Nonfinancial Resources

- Students
  - a. Applications/Acceptances/ Matriculations/Retention
  - b. Average freshman test scores
- Instructional expenses per operating expenses
- Average faculty salary
- Estimated deferred maintenance

college's management information system.)

Second, they have been selected to cover a broad spectrum of the college's activities to give a picture of the college's financial well-being. To be financially healthy, a college should have the financial flexibility to respond to changes in the political, social, and economic environment in which it exists. Inflation, increasing regulatory requirements, declining enrollments, increasing tenure ratios, and changing student academic interests are some of the pressures that may adversely affect a college. The institution must have and use the capacity to adjust its resources to best meet these pressures.

Theory for Small Independent College Financial Condition

The major premise of the theory is that a college's overall condition can be meaningfully characterized by measuring available resources, trends in these resources, and the institution's special needs for these resources. The focus of the theory is on financial resources, but other resources such as faculty, students, fixed assets, and programmatic resources are examined as well. An institution's financial status is difficult to evaluate; changes in one type of resource, such as tuition, may foreshadow or predict changes in other resources, such as student financial aid. The interrelationships that do exist among financial resources require a comprehensive examination of the institution's total financial structure.

The workbook's focus is on financial resources, largely because of the belief that internal and external decisions and events affect these resources first. Hence, a clear understanding of the trends and the condition of financial resources is important to the early detection of any institutional decline. Of course, this focus also benefits from the objectivity of many financial indicators.

The amount and condition of an institution's resources are partially determined by internal factors such as policy decisions and their implementations. The amount and condition of resources are also determined by external factors such as inflation and income availability. Thus, resource measures are symptoms of those internal and external factors that are the causes of institutional decline or improvement.

Accumulated financial wealth is of great importance to small independent colleges. A sufficient store of available funds gives an institution the ability to react to changes in the environment. An institution with sufficient financial resources can withstand adverse trends and has the flexibility to institute changes at opportune moments to reverse the trends. Institutions with sufficient financial resources can experiment with their mission or program with minimal concern that increased costs will curtail their entire operation.

There is no claim here that adequate financial resources are indicative

of the desire to innovate or take chances; such resources merely provide the opportunity to weather storms and experiment where possible without jeopardizing the institution's future. Institutions with limited financial resources may still experiment, but at greater risk than more financially resourceful institutions.

The necessary level of financial resources is partially determined by a set of factors that causes the institution to be inherently exposed to risk. These factors determine the size and type of institutional financial resources necessary to provide flexibility and protection from adverse trends.

Ideas incorporated into the workbook include:

- Recognition that highly volatile income sources, such as restricted revenues, require the institution to buffer itself with greater financial resources. The more dependent an institution is on uncertain funds, the greater the need for more financial resources.

- The concept that greater financial resources are necessary for institutions with a large proportion of their budgets committed to relatively fixed expenses, such as debt service and salaries of tenured faculty. These institutions must balance the inflexibility of their expense structure with the flexibility of financial resources.

- The concept that resources other than financial may also bear the brunt of external or internal pressures. The number and quality of the faculty, students, program offerings, and the condition of buildings are examples of institutional resources that affect the institution's financial condition.

These major factors have been built into the self-assessment workbook and are the basis for the statistics that have been selected. Following are more detailed descriptions of the four broad analytic categories shown on page 6.

Financial Strength

In the research that led to the workbook, several excellent proxies were found that approximate the institution's financial resource levels and their trends. These proxies or statistics estimate the relative ability of the institution to take risks. For example, the statistic used to estimate long-term financial resources is the ratio of the institution's endowment market value to total operating expenses. This ratio provides a useful proxy measure for estimating the adequacy of the institution's capital base and how it has changed.

In the intermediate-term, the ratio of the sum of the fund balances for the current fund and the quasi-endowment fund to total operating expenses is used to evaluate the institution's overall available reserves.

In the short-term, the assets and the liabilities of the current fund are examined. The ratio of current fund assets to liabilities gives an indication of the immediate ability of the institution to pay its most pressing debts. Ratios below 1.0 indicate that the institution lacks current assets to pay immediate bills.

Estimated Risk

Also developed are useful proxies for estimating the risk exposure of the institution. The more the institution is exposed to financial risk, the greater the need for increased financial resources. In the long-term, the ratio of long-term debt to total revenue is a useful proxy for measuring the institution's commitment to continuing payments in proportion to its revenue sources.

For the intermediate-term, the ratio of restricted income to total income and the ratio of fixed commitments, such as tenured faculty salaries and debt payments, to total revenue are used. Many restricted revenues are short-term while tenured faculty and debt service are not. Heavy reliance on restricted revenues generally constitutes increased exposure to financial risk.

There are two proxies for short-term risk exposure. One is the ratio of short-term debt to annual revenue. This shows the institution's relative ability to meet its commitments. The second short-term proxy is a measure of the volatility of tuition revenues as a proportion of total revenue. This proxy is computed as the difference between the highest real tuition level and the lowest real tuition level over the most recent five years divided by total revenue for the current year.

Changes Affecting Financial Resources

Essential to the diagnosis of financial condition is the examination of the factors which cause decline or expansion of resources. Net real tuition revenue trends indicate the institution's ability to continue drawing support from students. Private gifts, government support, and endowment income as proportions of overall revenue indicate important trends in the ability of the institution to capture resources and the ability of the environment to provide this support. Finally, the pressure of cost increases and the ability of the institution to successfully manage these pressures are indicated by the trends in total real costs per student.

Changes in Nonfinancial Resources

Also identified are proxies that measure changes in nonfinancial resources. For example, the real value of average faculty salaries focuses on the faculty as a resource. The institution's priority for the instruction program as a resource can be monitored by calculating the proportion of the budget expended for instruction. Real instruction cost

per student is another measure which is of importance. Freshman entrance test scores are useful indicators of the changes in student resources. Finally, estimates of the deferred maintenance give an approximate indication of changes in the effort to maintain physical resources in good condition.

CHAPTER 2

Calculation of the Statistics

This chapter, which is highly structured in typical workbook format, provides a means for simplifying the calculations of statistics and facilitates the process of analyzing statistical results. The chapter is divided into the following sections:

SECTION A: College Profile

SECTION B: Data Worksheet

SECTION C: Definition of Terms

SECTION D: Financial Strength

SECTION E: Estimated Risk

SECTION F: Changes Affecting Financial Resources

SECTION G: Changes in Nonfinancial Resources

The College Profile in Section A is intended to compile relevant information that will be useful in understanding the significance of statistics. The profile will also prove useful when describing the significance of the statistics to trustees or to other colleges that wish to share information.

The Data Worksheet in Section B is a device for gathering all data elements necessary to calculate the statistics. Most, if not all, should be readily available in existing institutional records. The Definition of Terms section is included to facilitate the use of common data that will aid in using comparative statistics.

Sections D through G include worksheets used to calculate the statistics. A separate worksheet is provided for each calculation. Included with each worksheet is a description of the statistic, its significance, and limitations in its use; in some cases, data from similar institutions are also shown.

Another major feature of the worksheet is space for the self-assessor to describe the meaning of the statistical value in terms of how it relates to other values calculated and in comparison with similar institutions.

SECTION A

COLLEGE PROFILE

College name:_____ Enrollment (1978 Fall FTE):_____

Location :_____ FICE Identification :_____

_____ Carnegie Classification :_____

Church Affiliation(if any):_____

Current fund revenues 1978-79 $_____

Institutional mission_____

_____

_____

_____

Financial relationship to church (if any)_____

_____

_____

Description of major state-supported programs (student financial aid, special academic programs, etc.)_____

_____

_____

Description of major federally supported programs (Title III, student aid, etc.)

_____

_____

_____

SECTION B

DATA WORKSHEET

NOTE: This data sheet is a useful means for gathering all of the information needed to calculate the statistics. Each line is discrete; the columns are not intended to be added.

STATEMENT OF SELECTED CURRENT FUND REVENUES, EXPENDITURES, AND OTHER CHANGES ($000)

	Fiscal Years Ending					
	1974	1975	1976	1977	1978	1979
Revenues						
Tuition and fees						
Government appropriations						
Federal						
State						
Local						
Government grants and contracts						
Federal						
State						
Local						
Private gifts, grants, and contracts						
Endowment income						
Housing and food service revenues						
Total current fund restricted revenues						
Total current fund revenues						
Expenditures						
Instruction						
Unrestricted student aid grants						
Total educational and general expenditures and mandatory transfers						

[continued on next page]

	Fiscal Years Ending					
	1974	1975	1976	1977	1978	1979
BALANCE SHEET						
Current fund assets						
Current fund liabilities						
Annual debt service payments (all funds)						
Endowment market value (year end)						
Fund Balances:						
Current						
Quasi-endowment						
OTHER SOURCES						
Total FTE enrollment (Fall term)						
Applications (Freshman class only)						
Acceptances (Freshman class only)						
Matriculations (Freshman class only)						
Retention (Second year)						
Average freshman entrance test scores						
Estimated tenured faculty compensation (include fringe benefits)						
Average faculty salary (AAUP salary survey or equivalent)						
Estimated deferred maintenance						

SECTION C

DEFINITION OF TERMS

Annual Debt Service Payments: All interest and principal payments on all debts due within one year.

Current Fund Assets: All cash, accounts receivable (including unbilled charges), notes receivable, undrawn appropriations, investments, amounts due from other fund groups, inventories, prepaid expenses, and deferred charges.

Current Fund Liabilities: All accounts and notes payable, accrued liabilities, deposits, amounts due to other fund groups, and deferred credits.

Current Fund (Total): Those economic resources of a college or university that are expendable for the purpose of performing the primary missions of the institution -- instruction, research, and public service.

Educational and General Expenditures: Includes expenditures for all operations related to institution, research, public service, academic support, student services, institutional support, operation and maintenance of plant, and scholarships and fellowships.

Enrollment (Fall FTE): A constructed count of the equivalent number of full-time students enrolled in courses as of the fall semester by unit or by department of instruction or by student program.

Estimated Deferred Maintenance: Items of maintenance and repair which cannot be corrected within twelve months of the date the item was noted.

Estimated Tenured Faculty Compensation: Gross compensation (including fringe benefits) paid to or on behalf of tenured faculty.

HEPI (Higher Education Price Indexes): D. Kent Halstead, Higher Education Prices and Price Indexes (and annual supplements). Washington, D.C.: U.S. Government Printing Office, 1975.

Long-Term Debt: Total debt payable more than one year from the fiscal year-end.

Mandatory Transfers: Includes all transfers from the current fund group to other fund groups arising out of (1) binding agreements related to the financing of educational plant, such as amounts for debt retirement, interest, and required provisions for renewals and replacements of plant, not financed from other sources; and (2) grant agreements with agencies of the federal government, donors, and other organizations to match gifts and grants to loan and other funds.

Quasi-Endowment: Funds that the governing board of an institution, rather than a donor or other external agency, has determined are to be retained or invested.

Restricted Current Fund Revenues: Includes restricted resources to the extent that such funds were expended.

Unrestricted Current Fund Revenues: Includes all unrestricted gifts, grants, and other resources earned during the reporting period.

SECTION D

FINANCIAL STRENGTH

- Long-term:

$$\frac{\text{Endowment Market Value}}{\text{Operating Expenses}}$$

- Intermediate-term:

$$\frac{\text{Available Fund Balances}}{\text{Operating Expenses}}$$

- Short-term:

$$\frac{\text{Current Fund Assets}}{\text{Current Fund Liabilities}}$$

CRITERIA FOR EVALUATING THE FINANCIAL STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Financial Strength: Long-Term

Selected Statistic: $\frac{\text{Endowment Market Value}}{\text{Educational and General Expenses + Mandatory Transfers (E\&G + MT)}}$

Significance of Statistic:

This indicator shows the financial resources which can be used over the long term to give the institution a competitive advantage. Income from endowment may be used to provide a net price discount to students, a quality bonus to the educational program, or both. By dividing the fund balance by current fund revenues, a comparison of the endowment in terms of the institution's budget is possible.

Calculation Worksheet:

	($000) 1974	1975	1976	1977	1978	1979
A. Endowment Market Value Year End	$	$	$	$	$	$
B. E&G + MT	$	$	$	$	$	$
A/B						

Values for Similar Institutions:

Liberal Arts Colleges II
JMA Database

Enrollment	Median Values 1974	1975	1976	1977	1978	1979
FTE ≤ 800	(38).494	(40).468	(43).460	(41).403		
FTE > 800	(47).501	(50).586	(50).554	(50).455		
Total	(85).494	(90).547	(93).519	(91).429		

Note: Number of institutions in sample are shown in parentheses.

Source: Audited Financial Statements Coded to NACUBO Standards, John Minter Associates, Boulder, Colorado

ANALYSIS OF STATISTICAL VALUES

Limitations:

The endowment fund balance does not always accurately reflect the earning potential of these assets. Further, many other factors may effectively negate the value of this resource over the long run, including income restrictions, high endowment payout policies, and poor budgeting discipline.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

CRITERIA FOR EVALUATING THE FINANCIAL STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Financial Strength: Intermediate-Term

Selected Statistic: $\frac{\text{Available Fund Balances}}{\text{Educational and General Expenses + Mandatory Transfers (E\&G + MT)}}$

Significance of Statistic:

This indicator shows the relative amount of financial resources available to respond to a crisis of from one- to three-years in duration. In a sense, the resulting fraction is the percentage of a year in which reserves could be used to keep the institution going if all other income sources were to dry up. Brief or experimental innovations could also be funded from these resources. These fund balances should include reserves for current purposes. An institution should have sufficient funds in these balances to sustain it through 95% of all possible two- to three-year crises, for example, a 20% decline in enrollment. Each institution must determine for itself the desired level of such reserves.

Calculation Worksheet:

($000)

	1974	1975	1976	1977	1978	1979
Available Fund Balances (Year End):						
Current Fund (Total)	$	$	$	$	$	$
Quasi-Endowment	$	$	$	$	$	$
(A) Total	$	$	$	$	$	$
(B) E&G + MT	$	$	$	$	$	$
A/B						

Values for Similar Institutions:

Liberal Arts Colleges II
JMA Database

	Median Values					
Enrollment	1974	1975	1976	1977	1978	1979
FTE ≤ 800	(52).047	(52).026	(52).011	(52)-.025		
FTE > 800	(59).174	(59).197	(59).194	(58) .152		
Total	(111).122	(111).103	(111).109	(110) .118		

Note: Number of institutions in sample are shown in parentheses.

Source: Audited Financial Statements Coded to NACUBO Standards, John Minter Associates, Boulder, Colorado

ANALYSIS OF STATISTICAL VALUES

Limitations:

Not all the assets of the current fund and quasi-endowment fund are sufficiently liquid to be useful even over a two- or three-year period. To the extent that funds are uncommitted in the unexpended plant fund, this indicator understates usable resources. Distinguishing between the quasi-endowment and the pure endowment fund balances is often difficult, especially with regard to realized gains and losses.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

CRITERIA FOR EVALUATING THE FINANCIAL STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Financial Strength: Short-Term

Selected Statistic: $\frac{\text{Current Fund Assets}}{\text{Current Fund Liabilities}}$

Significance of Statistic:

This indicator shows the coverage that the institution's most liquid assets have of debts that will be due within one year. When this ratio is less than one, the institution must depend on the flow of cash from its current operations just to stay ahead of its creditors. Because many current fund assets are not liquid enough to pay these kinds of debts, ratios greater than one are recommended. Institutions with an insufficient level of current fund assets, or short-term financial resources, will be strongly affected by immediate changes in the environment, which will require action.

Calculation Worksheet:

($000)

	1974	1975	1976	1977	1978	1979
A. Current Fund Assets	$	$	$	$	$	$
B. Current Fund Liabilities	$	$	$	$	$	$
A/B						

Values for Similar Institutions:

Liberal Arts Colleges II
JMA Database

Enrollment	Median Values 1974	1975	1976	1977	1978	1979
FTE ≤ 800	(52) .82	(52) .856	(52) .953	(52) .824		
FTE > 800	(59)1.314	(59)1.324	(59)1.311	(58)1.263		
Total	(111)1.181	(111)1.150	(111)1.255	(110)1.186		

Note: Number of institutions in sample are shown in parentheses

Source: Audited Financial Statements Coded to NACUBO Standards, John Minter Associates, Boulder, Colorado

ANALYSIS OF STATISTICAL VALUES

Limitations:

Institutions have been known to survive pressing financial crises with insufficient current assets by selling land, liquidating quasi-endowment assets, or by refinancing current debt with long-term notes guaranteed by previously unpledged assets (often not without some cost to reputation or to the value of the assets). This statistic also varies somewhat depending on the time of year in which it is calculated, making it difficult to set a standard or to make comparisons.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

SECTION E

ESTIMATED RISK

- Long-term:
  - a. Fixed commitments
  - b. $\frac{\text{Long-term Debt}}{\text{Current Fund Revenues}}$
- Intermediate-term:
  - Dependence on restricted income
- Short-term:
  - a. Enrollment fluctuation
  - b. $\frac{\text{Current Fund Liabilities}}{\text{Current Fund Revenues}}$

CRITERIA FOR EVALUATING THE FINANCIAL STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Estimated Risk: Long-term

Selected Statistic:

Part One: $\frac{\text{Estimated Tenured Faculty Compensation \& Annual Debt Service}}{\text{Current Fund Revenues}}$

Part Two: $\frac{\text{Long-Term Debt}}{\text{Current Fund Revenues}}$

Significance of Statistic:

These ratios indicate the proportion of current fund revenues which go to costs over which the institution has the least discretion. Although it is possible to reduce the costs in each of these areas, such actions are drastic. The less flexibility an institution has in the management of its budgeted expenses, the more financial resources it needs to cushion possible shocks. Institutions with limited control over expenses, faced with revenue declines, need a longer time to adjust and hence need larger reserves to protect them during the decline.

Calculation Worksheet:

	($000) 1974	1975	1976	1977	1978	1979
Part One:						
Estimated Tenured Faculty Compensation	$	$	$	$	$	$
Annual Debt Service	$	$	$	$	$	$
(A_1) Total	$	$	$	$	$	$
(B_1) Current Fund Revenues	$	$	$	$	$	$
A_1/B_1						
Part Two:						
(A_2) Long-term Debt	$	$	$	$	$	$
(B_2) Current Fund Revenues	$	$	$	$	$	$
A_2/B_2						

Values for Similar Institutions:

Part One: The maximum value for the statistic should be approximately 30%. Values above this normally reflect very high levels of fixed obligations.

Part Two: Not available

ANALYSIS OF STATISTICAL VALUES

Limitations:

Institutions have many other fixed and semi-fixed costs than the ones listed. The ratios listed here were selected because of the trauma involved in taking actions to reduce them. The calculated ratios give an understated picture of the fixed-cost exposure of the institution. The burden of long-term debt depends to a great extent on the interest rate charged on the bonds. Institutions with many resources very often feel confident with larger amounts of long-term debt, and thus for them high, long-term debt levels are signs of optimism contrary to the implications of the statistics.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

CRITERIA FOR EVALUATING THE FINANCIAL
STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Estimated Risk: Intermediate-term

Selected Statistic: $\frac{\text{Current Fund Restricted Revenues}}{\text{Current Fund Revenues}}$

Significance of Statistic:

The risk of discontinuation of restricted revenues is normally higher than the risk of discontinuation of unrestricted revenues. Most restricted revenues are for projects of fixed duration; these revenues will cease. The more an institution depends on restricted revenues, the greater financial risk it is running.

Calculation Worksheet:

	($000) 1974	1975	1976	1977	1978	1979
(A) Current Fund Restricted Revenues	$	$	$	$	$	$
(B) Current Fund Revenues	$	$	$	$	$	$
A/B						

Values for Similar Institutions: Not available

ANALYSIS OF STATISTICAL VALUES

Limitations:

Some restricted revenues may be more dependable than some unrestricted revenues. Also, there are other ways to absorb the distress caused by the completion of a project, for example, by making sure all expenditures (including salary costs) cease at the completion of the project.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

CRITERIA FOR EVALUATING THE FINANCIAL STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Estimated Risk: Short-term

Selected Statistic: Part One: Enrollment Fluctuation Part Two: $\frac{\text{Current Fund Liabilities}}{\text{Current Fund Revenues}}$

Significance of Statistic:

Part One: The greater the swing in revenue from this key source in the past, the greater the probability of continued fluctuations. Both growth and decline require extra financial resources to finance the adjustment.

Part Two: The size of the current fund liabilities compared to the annual revenue rate also indicates risk: the risk that the institution will be unable to pay its debts.

Calculation Worksheet:

($000)

Part One:	1974	1975	1976	1977	1978	1979
Tuition + fees + housing and food service revenues	$	$	$	$	$	$
Less unrestricted student aid grants	$	$	$	$	$	$
Net revenue from students	$	$	$	$	$	$
HEPI (1967=100)	153.1	166.2	177.2	188.7	201.3	
Deflated net student revenue	$	$	$	$	$	$
Highest - lowest student revenue			$			
As a proportion of E&G + MT			%			
Part Two:						
(A_2) Current Fund Liabilities	$	$	$	$	$	$
(B_2) Current Fund Revenues	$	$	$	$	$	$
A_2/B_2						

Values for Similar Institutions:

Part One: Not available

Part Two:

Liberal Arts Colleges II

JMA Database

Median Values

Enrollment	1974	1975	1976	1977	1978	1979
FTE $\leq$ 800	(52).180	(52).177	(52).191	(52).190		
FTE $>$ 800	(59).153	(59).152	(59).151	(58).145		
Total	(111).157	(111).165	(111).164	(110).157		

Note: Number of institutions in sample are shown in parentheses.

Source: Audited Financial Statements Coded to NACUBO Standards, John Minter Associates, Boulder, Colorado

ANALYSIS OF STATISTICAL VALUES

Limitations:

Steady growth in enrollments must be interpreted differently from declines or fluctuations. While growth does generally take additional financing, and enrollment growth is often difficult to sustain (the last one hundred students recruited are the hardest to retain), growth is still easier to manage than decline. Thus, comparisons of institutions with similar fluctuations but different trends should be done with caution.

This statistic does not adequately reflect the many factors that cause enrollments to fluctuate. Second tier analysis will generally be required to understand the causes in enrollment changes.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

SECTION F

CHANGES AFFECTING FINANCIAL RESOURCES

- Net revenues from students
- Revenues from government agencies
- Current fund private gifts used
- Current fund endowment income used
- Operating expenses per FTE student

CRITERIA FOR EVALUATING THE FINANCIAL STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Changes Affecting Financial Resources

Selected Statistic: Change in Net Revenues from Students

Significance of Statistic:

This important indicator is in part a predictor of changes in financial and nonfinancial resources. After deducting unrestricted student aid grants, a measure of direct support from students is derived. Even though enrollments may be increasing, heavy financial aid subsidies or below-inflation tuition increases may actually be allowing a decline in support from students. For independent institutions, support from students is an extremely important revenue source, and changes in this figure are of major concern. Because inflation is taken out in the calculation, 0% increases would indicate that the institution is staying even.

Calculation Worksheet:

	($000)					
	1974	1975	1976	1977	1978	1979
Tuition and fees	$	$	$	$	$	$
Housing & food service revenues	$	$	$	$	$	$
Total	$	$	$	$	$	$
Less unrestricted student aid grants	$	$	$	$	$	$
Total net student revenues	$	$	$	$	$	$
HEPI	153.1	166.2	177.2	188.7	201.3	
Deflated net student revenues	$	$	$	$	$	$
% change over prior year						

Values for Similar Institutions: Not available

ANALYSIS OF STATISTICAL VALUES

Limitations:

This statistic does not allow for the replacement of student-derived revenues by revenues from other sources. Thus, institutions which have successfully raised restricted gift income for student scholarships to reduce the cost to students will show a negative rate of increase in net revenue from students. Given the goal to reduce the student's burden, this "negative" indicator is in fact positive.

This indicator is a complex mixture of many potential changes: enrollment changes, tuition changes, housing occupancy changes, and unrestricted student aid policy changes. Further analysis must be done to make sense of any trends revealed in this first-tier indicator.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

CRITERIA FOR EVALUATING THE FINANCIAL STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Changes in Affecting Financial Resources

Selected Statistic: Change in Support from Government Agencies

Significance of Statistic:

Tracing changes in government support is another way to attempt to predict future declines or improvements in institutional resource levels. Usually this source has much less impact than private and student sources for small independent institutions.

Calculation Worksheet:

	($000) 1974	1975	1976	1977	1978	1979
Government Appropriations:						
Federal	$	$	$	$	$	$
State	$	$	$	$	$	$
Local	$	$	$	$	$	$
(A) Total government appropriations	$	$	$	$	$	$
(B) Total current fund revenues	$	$	$	$	$	$
A/B						

Values for Similar Institutions:

Liberal Arts Colleges II
JMA Database

Enrollment	Median Values 1974	1975	1976	1977	1978	1979
FTE ≤ 800	(52).055	(52).065	(52).074	(52).079		
FTE > 800	(59).061	(59).060	(59).057	(59).062		
Total	(111).058	(111).065	(111).067	(111).069		

Note: Number of institutions in sample are shown in parentheses.

Source: Audited Financial Statements Coded to NACUBO Standards, John Minter Associates, Boulder, Colorado

ANALYSIS OF STATISTICAL VALUES

Limitations:

Because of the relatively low level of governmental support for many institutions, small changes in absolute levels of support may cause larger percentage increases.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

CRITERIA FOR EVALUATING THE FINANCIAL STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Changes Affecting Financial Resources

Selected Statistic: Change in Current Fund Private Giving

Significance of Statistic:

This is an important source of financial resources for independent colleges. Changes in this figure are an important diagnostic for estimating the success of the institution's fund-raising program.

Calculation Worksheet:

	($000) 1974	1975	1976	1977	1978	1979
(A) Current fund private gifts, grants, and contracts	$	$	$	$	$	$
(B) Total current fund revenues	$	$	$	$	$	$
A/B						

Values for Similar Institutions:

Liberal Arts Colleges II
JMA Database

Enrollment	Median Values 1974	1975	1976	1977	1978	1979
FTE ≤ 800	(52).130	(52).138	(52).126	(52).117		
FTE > 800	(59).108	(59).111	(59).119	(59).122		
Total	(111).112	(111).127	(111).123	(111).122		

Note: Number of institutions in sample are shown in parentheses.

Source: Audited Financial Statements Coded to NACUBO Standards, John Minter Associates, Boulder, Colorado

ANALYSIS OF STATISTICAL VALUES

Limitations:

The large fluctuations that are normal in this statistic make analysis very difficult. It is important for the analyst to try and discern general trends. Sometimes it is helpful to remove any large nonrecurring gifts to better understand underlying trends. Also, analyzing the gifts by source is extremely helpful for finding strengths and weaknesses.

A further problem for analysis exists because this indicator sums restricted and unrestricted gifts together, even though restricted gifts are counted only as they are used. A separate analysis for each will be more revealing of important trends.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

CRITERIA FOR EVALUATING THE FINANCIAL STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Changes Affecting Financial Resources

Selected Statistic: Change in Endowment Income

Significance of Statistic:

The interpretation of this statistic is similar to the interpretation of the private gifts statistic.

Calculation Worksheet:

	($000) 1974	1975	1976	1977	1978	1979
(A) Endowment income	$	$	$	$	$	$
(B) Total current fund revenues	$	$	$	$	$	$
A/B						

Values for Similar Institutions:

Liberal Arts Colleges II
JMA Database

Enrollment	Median Values 1974	1975	1976	1977	1978	1979
FTE ≤ 800	(39).025	(40).024	(40).022	(41).021		
FTE > 800	(52).022	(54).021	(53).023	(53).021		
Total	(91).023	(94).023	(93).022	(94).021		

Note: Number of institutions in sample are shown in parentheses.

Source: Audited Financial Statements Coded to NACUBO Standards, John Minter Associates, Boulder, Colorado

ANALYSIS OF STATISTICAL VALUES

Limitations:

It is difficult to interpret this statistic, given its stock market dependence. Analysis of endowment performance is a complex affair and analysts are referred to NACUBO's Comparative Performance Study.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

CRITERIA FOR EVALUATING THE FINANCIAL STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Changes Affecting Financial Resources

Selected Statistic: Change in Educational and General Expenditures and Mandatory Transfers (E&G + MT) per Student FTE

Significance of Statistic:

Large increases in real costs per student indicate the institution's difficulty in combating forces of increasing costs and declining enrollments. Unless revenues can be increased on a per-student basis to keep up with costs, institutional resources will decline.

Calculation Worksheet:

($000)

	1974	1975	1976	1977	1978	1979
(A) E&G + MT	$	$	$	$	$	$
(B) Total enrollment (Fall FTE)						
A/B						
HEPI (1967=100)	153.1	166.2	177.2	188.7	201.3	
% change over prior year						

Values for Similar Institutions:

Liberal Arts Colleges II
JMA Database

Median Values

	1974	1975	1976	1977	1978	1979
FTE ≤ 800 (Actual)	(52)$2,774	(52)$2,973	(52)$3,239	(52)$3,613		
Deflated	1,812	1,789	1,828	1,915		
% change over prior year		-1.3%	2.2%	4.8%		
FTE > 800 (Actual)	(59)$2,682	(59)$2,989	(59)$3,227	(59)$3,475		
Deflated	1,752	1,798	1,821	1,842		
% change over prior year		2.7%	1.3%	1.1%		
Total (Actual)	(111)$2,760	(111)$2,983	(111)$3,227	(111)$3,567		
Deflated	1,803	1,795	1,821	1,890		
% change over prior year		- .4%	1.5%	3.8%		

Note: Number of institutions in sample are shown in parentheses.

Source: Audited Financial Statements Coded to NACUBO Standards, John Minter Associates, Boulder, Colorado

ANALYSIS OF STATISTICAL VALUES

Limitations:

Statistical values will not distinguish changes due to quality of cost control.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

SECTION G

CHANGES IN NONFINANCIAL RESOURCES

- ○ Students
  - a. Applications/Acceptances/ Matriculations/Retention
  - b. Average freshman test scores
- ○ Instructional expenses per operating expenses
- ○ Average faculty salary
- ○ Estimated deferred maintenance

CRITERIA FOR EVALUATING THE FINANCIAL STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Changes in Nonfinancial Resources

Selected Statistic: Part A. Relationships of Applications, Acceptances, Matriculations, and Retention

Part B. Average Freshman Entrance Test Scores

Significance of Statistic:

One measure, which is closely related to an institution's mission, is the average entrance test score of entering students. No value judgments are intended by this indicator. The purpose of the indicator is to trace changes in the average entering student test score, which may give another dimension to the institution's resources. Admission of students at a different level of preparation than had previously been admitted may be part of an institution's strategy to maintain its financial resources. Certainly both resources should be monitored simultaneously.

Calculation Worksheet:

		($000)					
		1974	1975	1976	1977	1978	1979
		% of Applied					
Part A							
Applied	#	(100)	(100)	(100)	(100)	(100)	(100)
Admitted		( )	( )	( )	( )	( )	( )
Matriculants		( )	( )	( )	( )	( )	( )
Retention in second year (% of matriculated)		( )	( )	( )	( )	( )	( )
Part B							
Average freshman entrance test scores							

Values for Similar Institutions: Not available

ANALYSIS OF STATISTICAL VALUES

Limitations:

National changes in average test scores must be taken into consideration. These statistics must be understood in the context of the institution's goals and objectives.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

CRITERIA FOR EVALUATING THE FINANCIAL STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Changes in Nonfinancial Resources

Selected Statistic: Change in Instructional Expenses as a Proportion of Educational and General Expenditures and Mandatory Transfers (E&G + MT)

Significance of Statistic:

Instruction is an important resource of the institution. If financial pressures force down the proportion of budget spent on instruction, then this resource is being sacrificed to other pressures. Many small independent colleges are being forced to put more emphasis on student recruitment, fund-raising and utilities budgets. Student financial aid is also taking a larger portion of revenues. To the extent that the instructional program is forced to grow more slowly than the rest of the budget, it is receiving a smaller portion of total resources.

Calculation Worksheet:

	($000) 1974	1975	1976	1977	1978	1979
(A) Instructional expenses	$	$	$	$	$	$
(B) E&G + MT	$	$	$	$	$	$
A/B						

Values for Similar Institutions:

Liberal Arts Colleges II
JMA Database

Enrollment	Median Values 1974	1975	1976	1977	1978	1979
FTE ≤ 800	(52).379	(51).384	(52).380	(52).388		
FTE > 800	(59).417	(59).406	(59).394	(59).397		
Total	(111).405	(110).394	(111).391	(111).396		

Note: Number of institutions in sample are shown in parentheses.

Source: Audited Financial Statements Coded to NACUBO Standards, John Minter Associates, Boulder, Colorado

ANALYSIS OF STATISTICAL VALUES

Limitations:

Some new budget items are specifically funded by external sources, causing the appearance of decline to instruction. The best example of this is increased federal financial aid channeled through the college's budget. The institution's emphasis on instruction may not in fact be declining; the institution may simply be carrying out the mission of an external agency in addition to its historic mission.

Some institutions may prefer to include academic support costs in the numerator to give a more comprehensive view of instructional emphasis as a proportion of the budget.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

CRITERIA FOR EVALUATING THE FINANCIAL
STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Changes in Nonfinancial Resources

Selected Statistic: Change in Average Faculty Salary

Significance of Statistic:

This indicator traces the changes in the institution's ability and willingness to keep faculty salaries in line with inflationary trends. The faculty are an important resource of the institution and average salary increases which are above inflation indicate relatively greater emphasis on the part of the institution with respect to this resource.

Calculation Worksheet:

	($000)					
	1974	1975	1976	1977	1978	1979
Average faculty salary	$	$	$	$	$	$
CPI (1971=100)	117.3	130.4	139.6	147.7	157.7	
Deflated average faculty salaries	$	$	$	$	$	$

Values for Similar Institutions: Not available

ANALYSIS OF STATISTICAL VALUES

Limitations:

Average salary increases neglect starting points; institutions with low pay scales to begin with may, in fact, be making little progress even with above-CPI increases. Compensation is not an exact correlate of quality; other factors such as regional costs of living are neglected. This statistic gives no indication of the range of faculty salaries.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

CRITERIA FOR EVALUATING THE FINANCIAL
STRENGTH OF SMALL INDEPENDENT INSTITUTIONS

Category: Changes in Nonfinancial Resources

Selected Statistic: Estimated Deferred Maintenance

Significance of Statistic:

This statistic provides another dimension of the status of the resources of a financial institution. Some institutions have forestalled drains on resources by deferring maintenance needs.

Calculation Worksheet:

	($000) 1974	1975	1976	1977	1978	1979
(A) Estimated deferred maintenance at end of fiscal year	$	$	$	$	$	$
(B) E&G + MT	$	$	$	$	$	$
A/B						

Values for Similar Institutions: Not available

ANALYSIS OF STATISTICAL VALUES

Limitations:

The amounts calculated for deferred maintenance are based on subjective judgments and lack comparability.

Explanation of College's Calculated Statistical Value:

A. How would you explain or characterize this statistic in relation to the other statistical values calculated in the workbook?

B. How would you explain or characterize this statistic as it compares with similar institutions?

APPENDIX

A listing of second-tier indicators which may be used to expand the diagnosis of the first tier.

Further research and field testing are needed to develop the calculation procedures and full descriptions of the utility of each statistic. However, this tentative list of second-tier statistics may be used at this time by institutions wishing to attempt a further analysis. This list of second-tier indicators will change significantly as work progresses. These second-tier indicators provide options which by their very detail show the general nature of the first tier.

First Tier	Second Tier
Financial Strength	
Financial Strength: Long-term	
$\frac{\text{Endowment Market Value}}{\text{E\&G Expenses and MT}}$	1. Payout ratios 2. Gifts to endowment as a proportion of market value
Financial Strength: Intermediate-term	
$\frac{\text{Available Fund Balances}}{\text{E\&G Expenses and MT}}$	1. Budget forecasts 2. History of deficits surpluses 3. Student accounts receivable - total amount over 180 days old
Financial Strength: Short-term	
$\frac{\text{Current Fund Assets}}{\text{Current Fund Liabilities}}$	1. Monthly cash forecasts 2. Proportion of liabilities owed to external agents
Estimated Risk	
Estimated Risk: Long-term	
$\frac{\text{Estimated "Fixed" Expenses}}{\text{Current Fund Revenues}}$	1. Projected debt repayment schedules

First Tier	Second Tier
$\frac{\text{Long-term Debt}}{\text{Current Fund Revenues}}$	1. Value of unpledged assets which might serve as collateral 2. Current fund revenues
Estimated Risk: Intermediate-term	
$\frac{\text{Current Fund Restricted Revenues}}{\text{Current Fund Revenues}}$	1. Proportion of restricted revenues for projects with completion dates within one year 2. Contingency plans for programs of uncertain future
Estimated Risk: Short-term	
Enrollment Stability	1. Historical student aid flows 2. Part-time full-time distribution
$\frac{\text{Current Fund Liabilities}}{\text{Current Fund Revenues}}$	1. Short-term borrowing policies 2. Amount of lines of credit
Changes Affecting Financial Resources	
Change in Net Revenue from Students	1. Tuition as a portion of total revenues 2. Tuition rank among ten closest competitors
Change in Support from Government Agencies	1. Support for specific programs 2. Support by specific agencies
Change in Current Fund Giving	1. Alumni yield 2. Average gift 3. Restricted vs. unrestricted 4. Campaign results
Change in Endowment Income	1. Payout ratios 2. Gifts to endowment as a proportion of market value 3. Yield rates compared to similar portfolios

First Tier	Second Tier
Changes in Nonfinancial Resources	
Students	1. Completion ratios 2. Percentage going on to graduate schools
Instruction	1. Student faculty ratio 2. Student services as a portion of expenses 3. Administration as a portion of expenses
Change in Average Faculty Salary	1. Proportion of faculty with terminal degrees 2. Faculty turnover rates
Deferred Maintenance	1. O&M expenses less utilities (deflated by CPI) per gross square foot of building space